

## **REMARKS**

Claims 1-3, 5-10 and 12-25 are pending in the application. Applicants have amended claim 1, and added a new independent claim 26. Support for the amendments is found in the specification from page 7 to page 28. No new matter is introduced. Accordingly, entry of this Amendment is respectfully requested.

Initially, Applicants would like to thank the Examiner for indicating that Claims 5-10, 12-17 and 19-25 have allowable subject matter and would be allowable if rewritten in an independent form including all of the limitations of the base claim and any intervening claims. However, since Applicants believe that all of the claims are allowable over the cited prior art based upon the following analysis, Applicants respectfully request the Examiner to reconsider the present application in light of the present response.

In the outstanding Official Action, the Examiner has rejected claims 1-3 and 18 under 35 U.S.C. §102(a) as allegedly anticipated by U.S. Patent No. 6,747,299 to Mimino et al. (hereafter "Mimino"). Applicants respectfully submit that the above rejection is overcome in view of the amendments and remarks herein.

To maintain a claim rejection under 35 U.S.C. §102, a reference must teach each and every element of the claim. Mimino does not do so.

Applicants' claim 1, as amended, recites a semiconductor device for reducing a high frequency noise that leaks through a power supply wiring. The semiconductor device comprises a plurality of transmission lines and a transmission line element, both formed in a semiconductor chip. Specifically, the transmission lines are each formed of a ground wiring to have the ground potential and a power supply wiring to carry a power supply current, with an insulating film interposed between the ground wiring and the power supply wiring. The

transmission line element is disposed to relay the power supply current carried between the transmission lines. The transmission line element is formed of one of the ground wirings and a corresponding one of the power supply wirings, with an insulating film interposed between the ground wiring and the power supply wiring. The transmission element has a characteristic impedance sufficiently low as compared to the characteristic impedance of the transmission lines to reduce a high frequency noise that leaks through the power supply wirings. In other words, the present application discloses a semiconductor with a plurality of power transmission lines, each of which is formed of a ground wiring and a power supply wiring, and one of which is further defined as a power transmission line element having lower impedance than those of the other power transmission lines. Thus, a decoupling circuit is formed by the transmission lines and the transmission line element to reduce the high frequency noise leaking through the power supply wirings and further prevent the negative effects of the high frequency noise on the signal transmitted by the signal wirings.

Mimino discloses a high frequency semiconductor device for transmitting high frequency signals. Specifically, Mimino discloses a semiconductor structure having power supply transmission lines and high frequency signal transmission lines. Each of the power supply transmission lines is formed of a power supply conductor 7 (power supply wiring), an insulating interlayer 6 and a ground plate 3. The power supply conductor 7 is provided on the insulating interlayer 6, and the insulating interlayer 6 is provided on the ground plate 3, so that the power supply conductor 7 is capacitive-coupled with the ground plate 3 via the insulating interlayer 6. Each of the high frequency signal transmission lines is formed of a line conductor 5, either the power supply conductor 7 or the ground plate 3, and an insulating interlayer 4. The insulating interlayer 4 is formed between the line conductor 5 and either the power supply

conductor 7 or the ground plate 3. Significantly, the capacitance between the ground plate 3 and the power supply conductor 7 (the power supply transmission line) is larger than that between the line conductor 5 and either the power supply conductor 7 or the ground plate 3 (the high frequency signal transmission line).

Thus, Mimino discloses a semiconductor device with power supply transmission lines and high frequency signal transmission lines having a higher capacitance than those of the power supply transmission lines. However, Mimino fails to disclose a semiconductor with a plurality of power transmission lines, one of which is defined as a power transmission line element having a lower impedance or higher capacitance than the other transmission lines, as recited by claim 1. In other words, Mimino fails to disclose a transmission line element recited by claim 1.

Further, Mimino discloses a technique in which a large capacitance is connected with the power supply plate or the power supply wiring. Mimino does not refer to the use of the transmission line as a capacitor. Mimino discloses a semiconductor device in which a capacitor provided with two terminals is connected between the power supply wiring and the ground plate. In contrast, the semiconductor device recited by claim 1 results in a capacitor by using a transmission line element.


In addition, since one of the power supply transmission lines is defined as the power transmission line element in claim 1, the element and the other transmission lines are comprised of the same semiconductor elements, i.e. a ground wiring and a power supply wiring. In contrast, the high frequency signal transmission lines of Mimino are each comprised of a line conductor 5 (signal transmitting conductor) and either the power supply line 7 or the ground

plate 3. Thus, the signal transmission lines of Mimino are by no means the same as or counterpart of the power transmission lines of claim 1 of the present application.

Therefore, Mimino fails to disclose each and every element claim 1, from which claims 2-3 depend. Independent claim 18 recites a method of manufacturing the semiconductor device as recited in claim 1, thereby inherently incorporating all the features of claim 1. Thus, Mimino fails to disclose each and every element of claim 18. Accordingly, the rejection of claim 1-3 and 18 under 35 U.S.C. §102(a) is overcome and withdrawal thereof is respectfully requested.

In view of the foregoing amendments and remarks, it is firmly believed that the subject application is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

  
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